(SEE CLAIMS RENUMBERED UNDER 37 CFR § 1.126)

CLEAN VERSION OF REWRITTEN OR ADDED CLAIMS
PURSUANT TO 37 CFR § 1.21 (c)(1)(i)

Please cancel claims 1- 48.

1.126 Please add claims 49 ~~- 70.~~ 69

49. A method, comprising:

a) providing:

i) an in vitro translation system capable of incorporating an N-terminal marker and a C-terminal marker into a nascent protein or portion thereof; and

A1 ii) a nucleic acid coding for a protein or portion thereof, said protein or portion thereof suspected of containing mutation that causes chain truncation;

b) introducing said nucleic acid into said in vitro translation system under conditions such that at least an N-terminal marker is introduced into a plurality of protein molecules or portions thereof; and

c) determining whether at least a portion of said plurality of molecules contains a C-terminal marker.

50. The method of Claim 49, further comprising d) comparing the level of incorporation of the N-terminal and C-terminal markers.

51. The method of Claim 49, wherein the nascent protein generated is selected from recombinant gene products, gene fusion products, enzymes, cytokines, carbohydrate and lipid binding proteins, nucleic acid binding proteins, hormones, immunogenic proteins, truncated proteins, mutant proteins, human proteins, viral proteins, bacterial proteins, parasitic proteins and fragments and combinations thereof.

52. The method of Claim 49, wherein the translation system comprises a cellular or cell-free translation system.

53. The method of Claim 52, wherein the cellular translation system is selected from prokaryotic cells, eukaryotic cells, tissue culture cells, primary cells, cells *in vivo*, isolated immortalized cells, human cells and combinations thereof.

54. The method of Claim 52, wherein the cell-free translation system is selected from the group consisting of *Escherichia coli* lysates, wheat germ extracts, insect cell lysates, rabbit reticulocyte lysates, frog oocyte lysates, dog pancreatic lysates, human cell lysates, mixtures of purified or semi-purified translation factors and combinations thereof.

A1

55. The method of Claim 49, wherein said N-terminal marker comprises a fluorescent compound.

56. The method of Claim 55, wherein said fluorescent compound is selected from dipyrromethene boron difluoride (4,4-difluoro-4-bora-3a,4a-diaza-s-indacene) dyes and derivatized coumarin.

57. The method of Claim 49, wherein said C-terminal comprises a histidine tag.

58. The method of Claim 49, wherein said nucleic acid template contains sequences introduced by primer extension for at least one of said markers.

R. 126 ~~60.~~ 59. A method, comprising:

a) providing:

i) an in vitro translation system capable of incorporating an N-terminal marker and a C-terminal marker into a nascent protein or portion thereof; and

ii) a nucleic acid coding for a disease-associated protein or portion thereof, said protein or portion thereof suspected of containing mutation that causes chain truncation;

b) introducing said nucleic acid into said in vitro translation system under conditions such that at least an N-terminal marker is introduced into a plurality of protein molecules or portions thereof; and

c) determining whether at least a portion of said plurality of molecules contains a C-terminal marker.

R.126 ~~61.~~ 60 The method of Claim 60, further comprising d) comparing the level of incorporation of the N-terminal and C-terminal markers.

R.126 ~~62.~~ 61 The method of Claim 60, wherein the nascent protein generated is selected from recombinant gene products, gene fusion products, enzymes, cytokines, carbohydrate and lipid binding proteins, nucleic acid binding proteins, hormones, immunogenic proteins, truncated proteins, mutant proteins, human proteins, viral proteins, bacterial proteins, parasitic proteins and fragments and combinations thereof.

A1

R.126 ~~63.~~ 62 The method of Claim 60, wherein the translation system comprises a cellular or cell-free translation system.

R.126 ~~64.~~ 63 The method of Claim 63, wherein the cellular translation system is selected from prokaryotic cells, eukaryotic cells, tissue culture cells, primary cells, cells *in vivo*, isolated immortalized cells, human cells and combinations thereof.

R.126 ~~65.~~ 64 The method of Claim 63, wherein the cell-free translation system is selected from the group consisting of *Escherichia coli* lysates, wheat germ extracts, insect cell lysates, rabbit reticulocyte lysates, frog oocyte lysates, dog pancreatic lysates, human cell lysates, mixtures of purified or semi-purified translation factors and combinations thereof.

R.126 ~~66.~~ 65 The method of Claim 60, wherein said N-terminal marker comprises a fluorescent compound.

R.126 ~~67.~~ 66 The method of Claim 66, wherein said fluorescent compound is selected from dipyrromethene boron difluoride (4,4-difluoro-4-bora-3a,4a-diaza-s-indacene) dyes and derivatized coumarin.

R.126 ~~68.~~ 67 The method of Claim 60, wherein said C-terminal comprises a histidine tag.

R.126 A1 ~~69.~~ 68 The method of Claim 60, wherein said nucleic acid template contains sequences introduced by primer extension for at least one of said markers.

R.126 Comp ~~70.~~ 69 The method of Claim 69, wherein said primer extension was performed as part of the polymerase chain reaction.